

COMMENTARY

DDW 2015: Basic and Translational Activities and Interests of the AGA Council



Welcome to the May issue of *Cellular and Molecular Gastroenterology and Hepatology*. It has been an exciting year for the journal. We unveiled the plan for the journal at Digestive Disease Week (DDW) 2014 and began accepting submissions the following month. I am happy to tell you that the response of the gastrointestinal, liver, and pancreatic research communities has been strong and supportive. We take this as evidence that there is a pressing need for a rigorous basic and translational science journal in our field, and reviewing our first three issues should convince anyone that *CMGH* is rigorous. I also want to assure all readers and authors that *CMGH* will be indexed in PubMed and PubMed Central beginning with the very first issue. Our plans are bold for *CMGH*. Later this year, we will be applying for early indexing in PubMed and PubMed Central. Once *CMGH* is accepted, the journal will be indexed from the very first issue.

As part of our efforts to support the basic and translational research communities within the AGA, we have compiled the following summaries and meeting guides prepared by the AGA sections listed below. We hope this will become a regular feature that helps our readers take advantage of the vast array of offerings at DDW. In addition to the terrific programing below, be sure to attend the Section Education and Networking Exchange on Saturday from 5:30-6:30 p.m. It is an opportunity for attendees to meet section leaders, see poster presentation, and volunteer to review abstracts or participate in future sessions at DDW.

Thanks very much to the section chairs and vice chairs as well as the *CMGH* managing editor, Lindsey Brounstein, for doing the major work in preparing this compilation, and to all of you for your support of the journal. I hope to see you in Washington, D.C.

JERROLD R. TURNER, MD, PhD
Editor-in-Chief, *CMGH*

DDW 2015 for the AGA Council

The Grossman Lecture
Gastrointestinal Oncology Section
Growth, Development, and Child Health Section
Immunology, Microbiology, and Inflammatory Bowel Diseases Section
Intestinal Disorders Section
Liver and Biliary Section
Neurogastroenterology and Motility Section
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Regulatory Peptides, Cell Signaling, and Molecular Biology Section

The Grossman Lecture

Andrew B. Leiter, MD, PhD, and
Charalabos Pothoulakis, MD

Morton Grossman (1919–1981), the father of modern gastrointestinal endocrine physiology, was truly one of the giants of the last century in gastrointestinal research. Dr Grossman's appointment in 1955 as chief of gastroenterology at the Wadsworth VA Medical Center in Los Angeles was a major turning point in his career. From 1955 until 1962, he ran the section and trained clinical gastroenterologists, all the while continuing his research. He was one of the first scientists appointed to the newly created Senior Medical Investigator program at the VA and was also professor of medicine and physiology at the UCLA School of Medicine.

In 1973, Dr Grossman learned that the National Institutes of Health intended to fund a center for the study of peptic ulcer disease. Almost single-handedly he organized the Wadsworth-UCLA and Dallas GI groups to submit a proposal, which was funded. Thus, in 1974 Dr Grossman became the first director of the Center for Ulcer Research and Education (CURE), which served as a prototype for the Digestive Diseases Research Core Center Program at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

During his life, Dr Grossman authored 400 articles. He trained a generation of fellows and scientists from all parts of the world. Many of them went on to successful research careers and to hold positions of distinction as heads of departments of gastroenterology, surgery, and physiology. His major contributions lay in defining the secretory mechanisms of the stomach and pancreas and the actions of regulatory gastrointestinal peptides. Dr Grossman set uncompromising standards for scientific validity and accuracy of reporting. In 1979 he was presented the Friedenwald Medal from the American Gastroenterological Association in recognition of his accomplishments.

His friends and colleagues will most remember his curiosity, his encyclopedic memory, the breadth of his interests and his energy in pursuing them, his intelligence, his perfectionism, his fairness, his wisdom, his integrity, his devotion, and his kindness.

The Grossman Distinguished Lectureship was established in 1989 to honor the memory and accomplishments of Dr Grossman. Previous speakers have all been distinguished, world-renowned scientists, including eight Nobel laureates. The 2015 Grossman Lecture will be given by Hans Clevers, president of the Royal Netherlands Academy of Arts and Sciences.

Over the last decade, few scientists have had as significant an impact on digestive disease research as Dr Clevers. Over a decade ago, Dr Clevers identified a transcription factor TCF1 as a key transcriptional effector protein of the Wnt signaling pathway. His discovery had a major impact on understanding this important pathway in metazoan development. More importantly his findings identified a missing link toward

understanding how adenomatous polyposis coli (APC) mutations and β -catenin give rise to colorectal cancer.

With the tools he developed for studying Wnt signaling, Dr Clevers recognized that self-renewing cells at the base of intestinal crypts showed highly active Wnt signaling. This critical observation led to the discovery of a seven transmembrane domain receptor, leucine-rich repeat-containing G-protein coupled receptor 5 (LGR5), as both a Wnt target gene and a marker of intestinal stem cells (ISC). Although the existence of a pluripotent intestinal stem had been proposed for decades, it remained elusive for study because there were no known markers.

In a series of classic experiments, Clevers and his colleagues established that LGR5-expressing cells fulfilled the properties of the long-postulated self-renewing intestinal stem cell. His discoveries and ongoing work have triggered an avalanche of information from his laboratory and many others about the ISC as an adult stem cell, the biology of the stem cells and their niche, the functional role of LGR5 as an R-spondin receptor, and the ability to propagate stem cells in organoid cultures. As a result of his seminal work, the ability to study stem cells has evolved from experiments that could never be done, to a wellspring of new knowledge that has our advanced understanding of the gastrointestinal tract.

Gastrointestinal Oncology Section

*William M. Grady, MD, AGAF, and
Rhonda F. Souza, MD, AGAF*

The Gastrointestinal Oncology section (GIONC) focuses on research in biomarkers, colon cancer screening, cancer chemoprevention, and tumor biology (colorectal cancer, esophageal cancer, pancreatic cancer, and gastric cancer). The GIONC section has played a key role in the multisociety ASCO/AGA/SSO/ASTRO GI Cancers Symposium that is held annually in January, where section members are key leaders at this meeting through their roles as members of the program committee and steering committee, and as invited speakers. Additionally, the strength of the GIONC section comes from its ability to address and highlight broad themes in oncology that pertain to multiple cancer types, not only those restricted to a single organ site.

Research Fora

GIONC has developed a program for DDW 2015 that covers advances in some of the most dynamic areas of gastrointestinal cancer research. Twelve research fora span basic and translational research on a number of exciting topics.

Saturday, May 16, 2015: "Gastric Neoplasms: Precursors, Biology, Diagnosis and Therapy," "Biomarkers for Detection, Treatment, and Prognosis of GI Cancers," "Therapy for GI Cancers: Translational and Targeted Approaches," "Tumor Biology and Tumor Microenvironment," "Stem Cell Biology and Cancer," and "Inflammation, Tumor Microenvironment, and Pancreatic Carcinogenesis."

Sunday, May 17, 2015: "Esophageal Neoplasms: Mechanisms of Carcinogenesis," "Cancer Susceptibility and Familial Cancer Syndromes," and "Molecular Pathways in Carcinogenesis, Angiogenesis, and Metastasis."

Monday, May 18, 2015: "Influences of Nutrition and the Microbiome on GI Cancers."

Tuesday, May 19, 2015: "Epigenetics and Gastrointestinal Cancer" and "Cancer Prevention and Chemoprevention."

Distinguished Abstract Plenary

Another highlight of DDW 2015 is the GIONC distinguished abstract plenary session being held on **Monday, May 18, 2015**. This session will feature advances in GI cancer therapies and biomarkers by showcasing some of the best posters submitted to our section this year.

Symposia

The GIONC section will also be hosting several symposia spanning clinical, basic, and translational research. The global research symposium "RAS Is Back: Novel Approaches and Insights into RAS and Gastrointestinal Cancer" will be on **Saturday, May 16, 2015**. There will be two translational symposia this year as well. You will not want to miss "Microbiome, Metabolites, and Cancer" on **Saturday, May 16, 2015**, or "Role of Inflammation in Gastrointestinal Cancer" on **Monday, May 18, 2015**. Finally, our clinical symposium will focus on the crucial debate: "Colonoscopy vs. Stool Testing for Colon Cancer Screening" and will round out the week on **Tuesday, May 19, 2015**.

Growth, Development, and Child Health Section

Alessio Fasano, MD, and Noah F. Shroyer, PhD

The Growth, Development and Child Health (GDCH) section is the home for pediatrics and developmental biology within the AGA. The membership of GDCH has the most diverse range of digestive health interests within the AGA, representing the interests of pediatrics within all digestive organ systems as well as basic science related to growth, development, and pediatrics.

GDCH received 129 abstracts for DDW 2015, of which 36 (28%) were accepted for oral presentations and 79 (61%) were accepted as posters. One abstract entitled "Villus Morphogenesis Re-examined: Unique Cell Division Carve Out Intestinal Villi" was selected for oral presentation as part of the AGA Basic Science Plenary. These numbers are quite similar to the overall number of abstracts submitted over the past 5 years. For DDW 2015, GDCH is sponsoring 10 oral sessions and four poster sessions.

Research Fora

Seven research fora include oral presentations selected from the abstracts:

Saturday, May 16, 2015: "The Role of Gut Microbiome in Pediatric GI Diseases." At this session, the GDCH section will also present the section Research Mentor Award to Richard J. Grand, MD.

Sunday, May 17, 2015: "Pediatric IBD: Clinical and Translational Studies" and "Molecular Mechanisms and Signaling of GI Growth and Development."

Monday, May 18, 2015: “Genetic and Intestinal Disorders,” “Pediatric Functional and Motility Disorders,” and “Mucosal Growth Factors and Receptors, Intestinal Proliferation, Cell Cycle Regulation, and Apoptosis.”

Tuesday, May 19, 2015: “Challenges and Opportunities in Pediatric Liver Diseases.”

Symposia

In addition to the abstract-driven research fora, the GDCH section is sponsoring three clinical and translational symposia of invited leaders in their fields.

The translational symposium on **Saturday, May 16, 2015** on “Gut Microbiome and Clinical Outcomes in Pediatrics” includes “How Gut Microbiome Is Established: Lessons Learned From Premature Infants” (Phillip I. Tar); “Microbiome and Obesity” (Lee M. Kaplan); “Microbiome and Food Allergies” (Richard S. Blumberg); and “Microbiome and IBD” (Eric Alm).

Another translational symposium on **Monday, May 18, 2015**, “Celiac Disease—Which Factors Are At Play in Childhood That Can Increase the Risk to Develop the Disease in Adulthood?” includes “How HLA Haplotype Can Influence the Risk of Developing Celiac Disease” (Edwin Liu); “Timing of Gluten Introduction and Risk of Celiac Disease” (Carlo Catassi); “Preventing Celiac Disease” (M. Luisa Mearin); and “The Role of Gut Microbiome and Metabolome in the Onset of Celiac Disease in Genetically At-Risk Individuals” (Alessio Fasano).

Lastly, the clinical symposium on **Monday, May 18, 2015**, “IBS 21st Century: Time to Switch From Treating Symptoms to Eliminate the Cause?” includes “IBS 101: What Do WE Know, What WE Don’t Know, How WE Can Close the Knowledge Gap” (Carlo Di Lorenzo); “Infective and Allergic Causes of IBS” (Craig Friesen); “The Role of Food Intolerances in the Pathogenesis of IBS” (Bruno Champitazi); and “The Intestine Under Stress: Neuro-Motor Causes of IBS” (Adrian Miranda).

Poster Sessions

Finally, GDCH is sponsoring four poster sessions: “Pediatric IBD,” “Pediatric Functional and Motility Disorders,” “Clinical Pediatric Gastroenterology,” and “Pediatric Translational Research.”

Immunology, Microbiology, and Inflammatory Bowel Diseases Section

Edward V. Loftus Jr., MD, AGAF, and Mark S. Silverberg, MD, PhD

DDW continues to be the preeminent scientific meeting for the field of inflammatory bowel diseases (IBD). The Immunology, Microbiology and Inflammatory Bowel Diseases (IMIBD) section is the largest of the AGA Council sections and continues to attract the best scientific work of the year. There are numerous topic descriptors for abstract submission that cover the spectrum of basic and translational science related to IMIBD in addition to clinical science. The section covers important major scientific topics such as innate and adaptive immunity, genetics and the microbiome, animal models of IBD, mucosal immunology, epithelial cell biology, and stem

cells. DDW is an outstanding opportunity for scientists to get state-of-the-art knowledge in a specific field of interest in addition to a well-rounded update in the field.

For the 2015 meeting there were 1096 abstracts submitted, with only 9% selected for oral presentation and about 60% accepted for poster presentation. This was a particularly competitive year with roughly 30% of the submitted abstracts rejected. Although it is not necessarily ideal to have such a high rejection rate, this does result in higher quality presentations at the meeting. We encourage all members from the scientific community interested in the IMIBD topics to attend DDW this year.

Research Fora

Some of the most exciting basic and translational highlights of the IMIBD section’s 17 research fora are included here.

These basic research sessions are a must-see at DDW 2015. On **Saturday, May 16, 2015**, a research forum addressing progress in developing novel therapeutics using animal models will take place. As the science evolves from IBD gene identification to gene function and biology, a Research Forum on **Sunday, May 17, 2015**, will include presentations that describe new genetic discoveries as well as some breakthroughs in understanding the function of known IBD gene variants. There will also be a mini-state-of-the-art lecture provided to summarize the current and future state of affairs in IBD genetics. Other research fora at DDW will focus on cytokines and receptors, pre and probiotics, and stem cell biology.

Saturday, May 16, 2015: “Using Animal Models to Develop Novel Therapies,” “IBD: Cytokines, Signaling, and Receptors,” and “IBD: Innate and Adaptive Immune Function.”

Sunday, May 17, 2015: “The Microbiome in IBD: Structure and Function” and “Gene Identification and Gene Function in IBD.”

Monday, May 18, 2015: “Stem Cell Biology.”

Tuesday, May 19, 2015: “Prebiotics and Probiotics.”

Distinguished Abstract Plenary

The IMIBD distinguished abstract plenary session on **Monday, May 18, 2015**, will contain presentations on a large-scale study examining the composition of the fecal microbiome in healthy first-degree relatives of Crohn’s disease patients and the role of RAC proteins in intestinal inflammation.

Intestinal Disorders Section

Nicholas O. Davidson, MD, AGAF and Wayne I. Lencer, MD, AGAF

The Intestinal Disorders (ID) section is the fourth largest section of AGA Council, receiving 416 abstracts in 2015, of which 53 (13%) were accepted for oral presentation and 258 (62%) were accepted for poster presentation. These figures compare favorably with historical trends for 2012–2014 (oral, range: 13%–17%; poster, range: 57%–63%).

The ID section members’ interests span a range of areas, embracing disease focused (celiac disease, radiation- and

chemotherapy-induced injury) and pathway-driven processes (diarrhea and malabsorption, host-microbial interactions, epithelial transport) as well as translational interests that include epithelial functions and junctions in wound repair, nutrient and lipid processing, and antigen sensing/processing in innate immunity. In addition, the ID section has promoted interest in the use of isolated enteroids and organoids for the study of intestinal disease, reflecting the emerging interest in stem cell biology.

Research Fora

For DDW 2015, the ID section is sponsoring eight research fora, which are aggregated around abstract submissions reflecting a general theme. Of these eight research fora, there is an equal distribution of basic and translational content. These include:

Saturday, May 16, 2015: “Intestinal Stem Cells, Developmental Biology, and in Vivo Approaches (Organoids/Enteroids),” “Microbes, Innate Immunity, Pathogenesis, and Inflammation,” and “Injury Models/Stem Cells.”

Sunday, May 17, 2015: “Intestinal Disorders: Clinical Mechanisms” and “Inflammation, Injury, Repair, and Fibrosis.”

Monday, May 18, 2015: “Intestinal Physiology, Cell Biology, and Barrier Function” and “Mechanisms and Mediators of Diarrhea.”

Tuesday, May 19, 2015: “Updates on the Diagnosis of Celiac Disease.”

Distinguished Abstract Plenary

In addition to these abstract-driven research fora, there is a distinguished abstract plenary session (**Saturday, May 16, 2015**) at which we will present the Research Mentor Award to Jerrold Turner, MD, PhD. The distinguished abstract plenary session reflects a range of high-impact abstracts including both basic and clinical topics.

Symposia

The ID section is also sponsoring a research symposium (**Saturday, May 16, 2015**) focused on “Next Generation Sequencing: Opportunities for Research and Practice.” This symposium will feature three experts who will discuss findings that include “Single-Cell PCR Using Fluidigm Technology” (Scott Magness); “Functional Heterogeneity of T-Cell Receptors at the Single Cell Level” (Arnold Han); and “Next Generation Sequencing in Colorectal Cancer/Polyposis Syndromes” (Ian Tomlinson). This research symposium will allow attendees to gain detailed insight into advances in single-cell transcriptomics and to understand how advances in sequencing technology are transforming clinical practice by facilitating subclassification of disease phenotypes.

Finally, the ID section is sponsoring two clinical symposia and one translational symposium.

The translational symposium (**Saturday, May 16, 2015**) is organized around “Xenobiotics, Microbiota, and Intestinal Disease” and features three experts who will discuss findings that include “Gut Reactions: Understanding Drug Metabolism by the Human Microbiota” (Emily Balskus);

“Xenobiotics and Intestinal Injury (Axel Behrens); and “Intestinal Efflux Transporters and Multidrug Resistance in Inflammation” (Elke Cario). This translational symposium will allow attendees to gain perspective into how the microbiota interact with and influence drug metabolism.

The first clinical symposium on **Monday, May 18, 2015**, is organized around “Radiation Injury, Intestinal Failure, and Rehabilitation” and features three experts who will discuss the current state of the art in this difficult management problem. Their topics will include “Radiation Enteropathy: Clinical Perspectives for the Future” (Jervoise Andreyev); “Intestinal Rehabilitation” (Donald F. Kirby); and “Managing Sepsis and Infections in Patients with Intestinal Failure” (Georg Lamprecht). This symposium will provide attendees with perspectives and insights from European and U.S. centers of excellence, including very practical details on preventing and managing important complications and outlining future directions for the field.

The second clinical symposium on **Monday, May 18, 2015**, is organized around “Celiac Disease: Causes and Dilemmas” and features an international group of experts who will discuss topics including “Why Is Celiac Disease on the Rise and Can It Be Prevented?” (Anneli Iversson); “Suspected Celiac Disease: How to Secure a Diagnosis” (Benjamin Lebwohl); “What to Do With Persistent Symptoms and/or Partial Recovery?” (Joseph A. Murray); and “How to Diagnose and Manage Refractory Celiac Disease?” (Chris J. Mulder). This symposium will provide attendees a granular understanding of the key challenges in the epidemiology, diagnosis, and management of celiac disease.

Liver and Biliary Section

*Jayant A. Talwalkar, MD, MPH, and
Kenneth E. Sherman, MD, PhD*

Membership in the Liver and Biliary (LB) section has seen a slight increase in the past few years. As of May 2014, the section counts 5038 members, which represents a 3% increase in membership since 2010. Domestic members comprise 65% of the section; international members comprise 18% of the base. More than 14% of the members are trainees (domestic and international), which represents one of the highest proportions of trainee members among all council sections. Nurse practitioners and practice managers comprise just 3% of the membership. Consistent with other sections, the large majority of Liver and Biliary members affiliate with multiple sections; including Clinical Practice; Esophageal, Gastric and Duodenal Disorders; and Intestinal Disorders.

Research Fora

The LB section is sponsoring two research fora, which will have oral abstract presentations centered on general themes. These include:

Saturday, May 16, 2015: “Metabolic and Genetic Liver Disease.”

Tuesday, May 19, 2015: “Liver and Biliary Carcinoma: Management, Etiology, Diagnosis, and Natural History.”

Poster Sessions

For DDW 2015, the LB section will offer multiple poster presentation forums for accepted scientific abstracts. The poster sessions will be divided into the following categories:

Saturday, May 16, 2015: "Clinical Biliary Tract Disorders, Stone Diseases, and Stone Pathogenesis."

Sunday, May 17, 2015: "Clinical Hepatitis."

Monday, May 18, 2015: "Complications of Cirrhosis and Portal Hypertension."

Tuesday, May 19, 2015: "Liver and Biliary Carcinoma," "Metabolic and Genetic Liver Disease," and "Pharmacoeconomics and Cost-Effectiveness Analysis of Liver Disease."

A jointly sponsored oral presentation session between the LB section and American Association for the Study of Liver Disease (AASLD) will also be held on **Tuesday, May 19, 2015**. Abstract presentations will be centered around "Noninvasive Markers of Liver Fibrosis."

Symposia

Three clinical symposia are being sponsored independently or jointly with other AGA Institute sections at DDW in 2015.

The clinical symposium on **Monday, May 18, 2015**, is focused on "Health Economics of Diagnosis and Treatment for Chronic Liver Disease." Expert speakers will speak about topics including "Pharmacoeconomics of Chronic Viral Hepatitis" (John Wong); "Economic and Resource Utilization with MELD for Liver Transplantation" (Shimul Shah); and "Cost-Effectiveness of Screening and Surveillance for HCC" (Norah Terrault). This symposium will allow attendees to hear about the potential economic benefits and impacts for available and emerging drug therapies.

The Emmett B. Keefe Clinical Symposium on **Monday, May 18, 2015**, will be organized around the topic of "Impact of Long-Term Suppression of Chronic HBV Infection." Topics include "The Effect of Long-Term Suppression of HBV on Immune Function and Cure" (Shyam Kottlil); "Long-Term Survival and Risk of HCC in HBV Infected Patients Treated With Long-Term Nucleoside/Nucleotide Therapy" (Stuart Gordon); and "Cost-Effectiveness of Long-Term Viral Suppression of HBV" (Mark Eckman). This symposium will deal with an important topic area for the management of patients with chronic hepatitis B infection.

A joint global clinical symposium sponsored by the LB and Clinical Practice sections will be held on **Tuesday, May 19, 2015**, and will focus on the "Implementation of the Affordable Care Act and the Practice of Gastroenterology and Hepatology." Topics include "Current Concepts in Provider and System-Based Quality of Care Measurement" (Spencer Dorn); "Impact of Health Insurance Coverage from Exchanges on Out-of-Pocket Costs for GI Services" (Joel Brill); and "Price Transparency, Narrow Networks and Academic Health Centers" (Mark McClellan). This novel and timely symposium will be of great interest to attendees given the recent changes in health-care reform and what effects this will have on the practice of gastroenterology and hepatology.

State of the Art

Last but not least, the LB section will once again host the Charles S. Lieber State-of-the-Art Lecture on **Sunday, May 17, 2015**. The invited speaker for the Lieber Lecture is Dr Scott Friedman, who will present on "NASH: The Convergence of Inflammation, Fat, and Fibrosis and the Path to Treatment."

Neurogastroenterology and Motility Section

Pankaj J. Pasricha, MD, and Satish S. C. Rao, MD, PhD, AGAF

There has never been a better time in terms of research and clinical advances in neurogastroenterology and motility (NGM). Often considered a "black box" in our specialty, the last few years have seen a flurry of basic science discoveries, novel therapeutic targets, refinement of diagnostic techniques, and several promising new drugs in the pipeline. At this DDW, the NGM section menu reflects this spectrum of innovation and the excitement around it.

Research Fora

There are many exciting fora where cutting-edge science will be discussed.

Saturday, May 16, 2015: "Microbiota, Metabolites, and Motility," "Emerging Paradigms in Pathogenesis of Motility Disorders," and "Neuro-Immune Interactions and ENS Disorders."

Sunday, May 17, 2015: "Irritable Bowel Syndrome: From Diagnosis to Treatment," "Irritable Bowel Syndrome: Advancing Our Understanding," and "Fundamental Advances in Enteric Neurobiology."

Monday, May 18, 2015: "Generating and Regenerating the Enteric Nervous System."

Tuesday, May 19, 2015: "Neurogastroenterology: Centrifugal/Centripetal" and "Sensory Neurobiology."

Distinguished Abstract Plenary

The culmination of these exciting research fora is the NGM plenary session on **Monday, May 18, 2015**, where the attendees will be able to listen to firsthand presentations of the best abstracts highlighting the most significant advances from bench to translational to clinical neurogastroenterology and motility. In addition, they will witness the presentation of the Research Mentor Award for 2015 to Michael Camilleri, MD, AGAF.

Symposia

In addition to the research fora at DDW 2015, the NGM section is sponsoring research, translational, and clinical symposia that feature expert invited speakers.

The research symposium on **Saturday, May 16, 2015**, will be "NGM Cutting-Edge: New Roles for Old Cells." We are bringing in experts from outside of gastroenterology to learn from them how their groundbreaking research can inform us about possible directions we need to take and where the next generation of discoveries will come from.

Thus, Isaac Chiu will talk to us about “How Sensory Neurons Sense Bacteria” and Milena Bogunovic will educate us about “Macrophages and GI Motility.” Finally Kenton Sanders will discuss the emerging story of “Fibroblasts and Gut Motility.”

This year’s translational symposium will be on **Monday, May 18, 2015**, and will focus on “Making Research Work for Patients—What Is in the Pipeline?” Here we will go to the next step in translation—learning about new and emerging diagnostic and therapeutic targets for functional and motility disorders. We will also assess the current state of our knowledge about biomarkers for irritable bowel syndrome and hear about new directions for microbiota manipulation for clinical benefit. Our topics and speakers include “Purinergic Drugs for Management of GI Disorders” (Fievos L. Christofi); “MicroRNAs, Genomics, and IBS: What Is the Link and Are We Any Closer to Finding Biomarkers?” (John W. Wiley); and “Therapeutic Modulation of Gut Microbiota” (Purna C. Kashyap).

Lastly, our global clinical symposium on **Saturday, May 16, 2015**, will address “Developing Targeted Drug Therapy for GI Disease.” An idea or discovery is only important if patients have access to it—in other words, if it makes it to the market. In this session, the audience will learn about the trials and travails of bringing forward new drugs and developing new targets for symptomatic relief or cure. We will also listen to the perspective of Big Pharma on GI disorders as a therapeutic area and what it perceives as the scientific or market barriers to drug development in gastroenterology. This will feature the following talks: “Novel High Throughput Approaches to Development of Anti-Diarrheals” (Alan S. Verkman); “Facilitating Pathways to Patients in Functional and Other GI Diseases: What Are the Roadblocks From a Regulatory Perspective?” (Juli Tomaino); “What Scares Investors From Investing in GI Disorders?” (Bruce Robertson); and “How Do We Re-engage Pharma in GI Drug Development?” (Gareth Hicks).

Obesity, Metabolism, and Nutrition Section

*Lee M. Kaplan, MD, PhD, AGAF, and
Dennis D. Black, MD*

In recent years, DDW programming by the Obesity, Metabolism and Nutrition (OMN) section has emphasized subject areas that have appealed to a majority of meeting attendees, especially those affiliated not only with the OMN section but also other sections with which we share common interests, as reflected by our strong participation in cross-sectional programming. A major emphasis on obesity and nutritional and metabolic disorders was solidified by a section name change in 2013 to “Obesity, Metabolism and Nutrition,” reflecting a research and clinical focus on this spectrum of major health problems. New programming has included fora and symposia highlighting related topics, including bariatric surgery and its impact on nutritional status, GI neuroendocrinology and metabolism, new and innovative endoscopic and other treatments of obesity and diabetes, fatty liver disease, GI regulation of energy balance, weight and metabolic function, microbiota and metabolic

regulation, and nutrition and metabolism across the life cycle. Nutritional support in all of its forms used in the management of a variety of diseases—including obesity, intestinal failure, and inflammatory bowel disease as well as nutrient absorption and metabolism—have also continued to be the focus of OMN programming. The OMN section also has endeavored to strike a balance between basic research to shed light on disease mechanisms, including preclinical studies to develop new therapies, and clinical and translational research to better describe disease phenotypes and test new therapeutic approaches.

The OMN section received 139 abstracts in 2014 and 137 in 2015, higher numbers than the previous years. In 2015, 25 (23%) were accepted for oral presentations, and 82 (77%) were accepted for poster presentations.

Research Fora

For DDW 2015, the OMN section is sponsoring four research fora, each with a focused theme and encompassing basic and translational research. These include:

Saturday, May 16, 2015: “Obesity: Basic and Clinical Studies” and “Neuroendocrine Regulation of Food Intake and Energy Expenditure.”

Sunday, May 17, 2015: “Gut Microbiota and Metabolic Regulation.”

Tuesday, May 19, 2015: “Vitamin and Nutrient Absorption and Metabolism.”

Symposia

In addition to these research fora, the OMN section will be sponsoring four themed symposia.

Saturday, May 16, 2015: “Nutrition, Epigenetics, and Metabolic Imprinting.” This research symposium will feature three experts discussing the role of early environmental and nutritional exposures in epigenetic alteration and metabolic imprinting, which have important implications for obesity and metabolic risk later in life. They include “Early Environmental Influences on Intestinal Developmental Epigenetics” (Lanlan Shen); “Influence of Early Life Nutrition on Future Energy Balance” (Karen Peterson); and “Environmental Exposure and Epigenetics of Metabolic Syndrome” (Ann Scheimann).

“Intestinal and Hepatic Lipid Droplets in Health and Disease.” This research symposium will bring together four experts on the biology of enterocyte and hepatocyte cytoplasmic lipid droplets and their roles in lipid storage and trafficking and their potential as therapeutic targets for obesity and nonalcoholic fatty liver disease (NAFLD). These include “Mechanisms of Lipid Synthesis and Storage in Lipid Droplets” (Robert Farese); “Cytoplasmic Lipid Droplet Synthesis and Catabolism in Enterocytes” (Kimberly Buhman); “Control of Lipolysis in Lipid Droplets by Perilipin (Dawn Brasaemle); and “The Lipid Droplet as a Therapeutic Target in NAFLD” (Jurgen Borlak).

“Eating Fat: The Good, the Bad and the Ugly.” This global translational symposium will address the impact of reduction in fat content of the American diet over the past 40 years on the emergence of obesity and metabolic syndrome

as well as effects of dietary lipid on the microbiome, intestinal inflammation, and malignancy. Topics include “Why Low-Fat, Low-Calorie Diets Don’t Work” (David Ludwig); “Nutrigenomics, Dietary Fatty Acids and Metabolic Syndrome” (Helen Roche); “Dietary Fat, the Gut Microbiome, and Metabolic Risk” (Eugene B. Chang); and “Impact of Dietary Fat on Intestinal Inflammation and Malignancy (R. Balfour Sartor). During this symposium the OMN Section Research Mentor Award will be presented to Samuel Kline, MD.

Monday, May 18, 2015: “Molecular Mechanisms of Intestinal Lipid Absorption: Targets for Obesity Therapy.” This translational symposium will update attendees on the latest discoveries defining mechanisms of intestinal lipid absorption at the molecular level and potential targets for the treatment of obesity. Topics include “Microsomal Triglyceride Transfer Protein” (M. Mahmood Hussain); “The Pre-Chylomicron Transport Vesicle” (Charles M. Mansbach, II); “DGAT and MGAT in ER Triacylglycerol Synthesis” (Scot Stone); and “CNS Regulation of Intestinal Lipoprotein Production” (Khosrow Adeli).

Poster Sessions

Poster sessions scheduled for **Saturday, May 16, 2015, through Tuesday, May 19, 2015**, will cover an array of topics, including “GI Regulation of Metabolic Function,” “Nutrient Absorption and Intestinal Epithelial Function,” “Prebiotics and Probiotics,” “Vitamins and Micronutrients: Basic and Clinical,” “Intestinal Failure and Therapy: Basic and Clinical,” “Gut Microbiota and Metabolic Regulation,” “Obesity: Basic and Mechanistic Studies,” “Innovative Treatments for Obesity,” “Obesity: Clinical and Epidemiologic Studies,” “Nutritional Support: Enteral and Parenteral,” and “Surgical and Endoscopic Treatment of Obesity and Metabolic Disorders.”

Pancreatic Disorders Section

Matthew J. DiMagno, MD, and Santhi S. Vege, MD, AGAF, FACC, FACP

The Pancreatic Disorders (PAN) Section of the AGA Institute Council has an exciting clinical, translational, and basic science program at DDW 2015. Herein we highlight basic and translational sessions that you will not want to miss.

Research Fora

Saturday, May 16, 2015: “Pancreatic Cystic Neoplasms and Cancer” examines the diagnostic and prognostic value of biomarkers for pancreatic cancer and the emerging epidemiologic and cost data that impact evaluation and monitoring strategies for branch duct intraductal papillary mucinous neoplasms (IPMNs).

Sunday, May 17, 2015: “Pathobiology of the Pancreas” addresses the intrapancreatic effects of transforming growth factor β (TGF- β) on pain behavior; the relationships among dietary fat, body mass index, and severity of acute pancreatitis; how a defective unfolded protein response promotes pancreatic cell injury and gland fibrosis; and how

pancreatic tumorigenic behavior is fostered by pancreatic stellate cell exosomes and by tumor BclxL expression.

Symposia

The PAN section is cosponsoring an exciting research symposium on **Monday, May 18, 2015:** “Irritant Sensing in the Gut: New Pathways to Visceral Pain of Digestive Diseases.”

The clinical symposium on **Saturday, May 16, 2015**, will be on “Clinical Targeting of Stellate Cells and Autophagy in Pancreatic Cancer: Hope for Patients or Potential Disaster?” Experts in the field will focus on evolving clinical treatment targets for pancreatic cancer, and the paradoxical pro- and antineoplastic effects of stellate cells and inhibition of autophagy on pancreatic cancer.

On **Saturday, May 16, 2015**, PAN will host a global translational symposium on “Epigenetics: A New Paradigm for Complex GI Diseases,” which will introduce an exciting new paradigm for understanding, diagnosing, and treating complex GI diseases, including pancreatitis, fibrosis, and cancer.

Sunday, May 17, 2015, will bring “Are Biomarkers Practical for Early Detection and Prognosis of Pancreatic Cancer?” Here, experts will review definitions for high-risk groups and early detection methods; screening and genetic testing; molecular biomarkers for early detection of pancreatic cancer; and current and future options for preventing pancreas cells with common Kras mutations from progressing to cancer.

Other Events

Beyond the research fora and symposia, there are plenty of other exciting events happening in the PAN section at DDW 2015.

Highlights of the poster sessions include “Pancreatic Genetics, Epigenetics and Pathobiology of the Pancreas” and “Pancreatic Cancer Risk Factors, Biomarkers and Diagnosis” on **Saturday, May 16, 2015**, and “Pancreatitis: Inflammation, Fibrogenesis, and Immunology” on **Tuesday, May 19, 2015**.

On **Sunday, May 17, 2015**, do not miss the AGA Focused Research Roundtable on “Insights Into Acinar Cells and Pancreatitis” featuring Dr Fred Gorelick who will discuss relevant basic research abstracts submitted to DDW 2015. At noon, join Dr Steven Pandol for a DDW Meet the Investigator Luncheon entitled “Emerging Bench to Bedside Treatments of Acute Pancreatitis.” In the afternoon, attend the AGA/ASGE Presidential Plenary.

Monday, May 18, 2015, brings more PAN events. At noon, join Dr Roger Liddle for a DDW Meet the Investigator Luncheon entitled “Neurogenic Inflammation and Pain in the Pancreas.” Also attend the distinguished abstract plenary session, which features top abstracts and presenters reporting key transcription factors responsible for pancreatic regeneration after injury, how pharmacologic inhibition of TGF- β reverses pancreatic fibrosis, novel imaging techniques to understand pancreatic microenvironment in pancreatic intraepithelial neoplasia (PanIN) development and gut permeability in pancreatitis, and the predictive value of K-Ras biomarkers for pancreatic cancer.

Finally, **Tuesday May 19, 2015**, brings the “ASGE/AGA Update on Pancreatic Cancer Screening,” which will review the diagnostic and/or prognostic value of biomarkers for pancreatic cancer and will highlight other methods for risk-stratifying pancreatic cancer and cancer precursor lesions.

Regulatory Peptides, Cell Signaling, and Molecular Biology Section

Andrew B. Leiter, MD, PhD, and
Charalabos Pothoulakis, MD

The AGA Council section “Regulatory Peptides, Cell Signaling, and Molecular Biology” (RPCMB) has broad interests in the basic mechanisms underlying digestive diseases and gastrointestinal physiology. From its origins in the study of gastrointestinal hormones, the section’s membership has interests representing many areas of cutting-edge science including growth factors and stem cells, cellular differentiation in the GI track, epigenetics, mechanisms of receptor function, luminal chemosensing, intestinal inflammation, and mucosal injury and healing. Given the membership’s strong interest in basic mechanisms, RPCMB has invited outside speakers who are leading scientists in their fields. Our section believes that it is an excellent opportunity to include the latest highly innovative scientific advances in the program at DDW before their incorporation into main-line digestive diseases research. This is clearly reflected in the quality of the speakers and cutting-edge research themes sponsored by RPCMB during DDW every year.

RPCMB will sponsor four invited speakers, three research fora, and four poster sessions as well as cosponsoring the Morton I. Grossman Lecture. We have an exciting lineup for DDW 2015.

State of the Art

Leonard Shultz from The Jackson Laboratory will be our State of the Art speaker (**Saturday, May 16, 2015**). Dr Shultz has pioneered genetically engineered mice that carry humanized immune systems. Generation of mice customized to a specific patient’s immune system may provide avatars for studying immune dysregulation occurring in cancer and autoimmune diseases. This approach may eventually lead to new therapies that are customized to individual patients.

Research Fora

Saturday, May 16, 2015: “Receptors and Signaling Pathways—Mechanisms Underlying GI Function.”

Monday, May 18, 2015: “Molecular Mechanisms Underlying Mucosal Injury and Repair” and “Cell Differentiation and Specialization in the GI Tract.”

Distinguished Abstract Plenary

We will hold our section’s distinguished abstract plenary session on **Saturday, May 16, 2015**. Six outstanding abstracts will focus on themes of cell signaling and growth factors. Our brief business meeting afterward is an excellent opportunity for younger investigators to get involved with planning DDW in the future. We welcome everyone with an interest in helping plan our section’s program in the future.

Symposia

The RPCMB section is sponsoring three additional invited-speaker research symposia entitled “Plasticity of Differentiated GI Cells in Choice of Cell Fate and Development of Tumors” (**Saturday, May 16, 2015**); “The Epigenetic Landscape Controlling Gene Expression in the Gastrointestinal Tract” (**Sunday, May 17, 2015**); and “Irritant Sensing in the Gut: New Pathways to Visceral Pain of Digestive Diseases” (**Monday, May 16, 2015**).

The Grossman Lecture

Our section is pleased to cosponsor the Morton I. Grossman Lecture (**Sunday, May 17, 2015**). This year’s speaker will be Hans Clevers. Dr Clevers’s pioneering studies have elucidated the mechanisms of Wnt signaling in the GI tract and have led to identification and characterization of intestinal stem cells. The title of his presentation will be “Lgr5 Stem Cells in Gastroenterology.”

We look forward to seeing you at DDW.

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